

W5YI

Nation's Oldest Ham Radio Newsletter REPORT

Up to the minute news from the world of amateur radio, personal computing and emerging electronics. While no guarantee is made, information is from sources we believe to be reliable. May be reproduced providing credit is given to The W5YI Report.

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AMATEUR ISSUED \$2,000 FINE FOR INDECENT LANGUAGE

Just when some amateurs thought that the Commission was not interested in pursuing the obscenity and indecency provisions of Section 97.113(d) due to the difficulty in prosecuting such cases comes word that the FCC's Field Operations Bureau has just issued a \$2,000 *Notice of Apparent Liability* against General Class amateur **Allen Burton, KA4URC** of Hornbeak, Tennessee. It is believed to be the first monetary forfeiture ever issued for an over-the-air amateur service speech violation that was not linked to an additional easier to prove offense.

Burton is charged with using obscene and indecent language during an on-air argument on the 20 meter ham band (14.300 MHz) on June 29, 1992, between the hours of 3:53 and 4:22 p.m. - a time when children might be likely to be listening. The NAL was issued by the FCC's Enforcement Division in Washington, DC. Burton was monitored and his transmissions transcribed by FCC engineer Tom Shirley of the FCC's Kingsville, Texas, monitoring station.

In a possibly related incident, **David C. Boyd, K9MX** of Stafford, Virginia - a member of the FCC's Amateur Auxiliary of the FCC's Field Operations Bureau - wrote FCC Chairman Alfred Sikes on October 21, 1991 and January 28, 1992, concerning abusive and obscene language heard on the amateur air waves.

Boyd wanted to know if the FCC would be enforcing the "indecency enforcement standards

to be applied in the Broadcast and Amateur Radio Services" as outlined in an FCC Public Notice dated April 29, 1987. He also questioned whether the FCC's so-called "safe harbor" rule which allows broadcast stations to transmit obscene or indecent language during hours when children are not likely to be listening applied to amateur radio. If it did apply, Boyd wanted to know which time zone applied.

Boyd did get a response to his letters to the FCC Chairman, but they came from Ralph Haller, Chief of the Private Radio Bureau on August 14, 1992. Haller said that "...the recordings and transcripts you submitted of allegedly indecent communications made over the amateur service frequencies ...do not constitute a sufficient basis for an enforcement action. We can assure you, however, that we will vigorously pursue those cases in which indecent transmissions are made during hours when children are likely to hear them."

On August 21, 1992, Boyd wrote Haller advising him that his response was not adequate. He wanted to know "Are the obscenity and indecency provisions of Part 97 still in force? Are the definitions outlined in the Communications Act of 1934 (as amended) still operative? If so, when will an action based on obscenity or indecency take place?" He added, "I understand that the Commission is very busy, but if at all possible, I would appreciate a reply addressing these questions, in something less than the 10 months required for

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your most recent response." Boyd sent copies of his letter to various Congressional and ARRL officials. On September 23rd, Allen Burton, KA4URC was cited for indecent amateur radio transmissions by the FCC's Enforcement Division.

I decided to telephone the Chief of that division, Mary Beth Richards in Washington, DC. Richards said "...the Rule violation that Burton was cited on was Section 97.113(d) 'No station shall transmit ...obscene, indecent or profane words, language or meaning...' She said the Commission has been restrained in the past by various court decisions on indecency.

"The transmission in question was made during mid-afternoon. At that time there is a likelihood that children are in the audience. In addition, recently the ARRL did a survey on minor amateur radio licensees which corroborated the fact that there were minors listening during that time."

I asked Mary Beth about the so-called "safe harbor", a time when broadcast indecency was allowed - and if it applied to amateur as well as broadcast radio transmissions. "The Commission right now is in the process of re-establishing a 'safe harbor' time ...how long should that period be at night and that sort of thing. Burton's transmissions were at four o'clock in the afternoon on a summer day. It appears that is a time when there is a reasonable expectation that children are transmitting and in the listening audience."

"Just what constitutes obscenity, indecency and profanity," I asked? Richards responded "The Supreme Court has said that obscene speech is not protected by the First Amendment. In *Miller vs. California* in 1973, the Supreme Court defined obscene as '...when an average person applying contemporary community standards would find that the work taken as a whole appeals to the prurient interest, the work depicts or describes in a patently offensive way, sexual conduct specifically defined by acts of law and the work taken as a whole lacks serious literary, artistic, political or scientific value.'"

"In the case of *Pacifica*, the court said indecent speech is a broader, less restricted category of speech. Speech is considered indecent if it describes sexual or excretory activities or organs in patently offensive terms. It need not depict or describe the hard core sexual conduct that is required for a finding of obscenity."

"The court has said that obscene speech is not protected by the First Amendment. In indecent speech, the government has to find a compelling interest in order to take action against indecent speech. The Commission has found that the compelling governmental interest is to protect children and that has been upheld. If you can show that there is a likelihood

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of children listening, then the Commission can take action against indecent speech."

What about profanity? "The Commission has not taken action against any of the lesser language violations in that rule. We have taken action against obscene and indecent speech, but we have not gone below that level. [Editor's note: Dictionary defines profanity as: extreme irreverence, contempt, abuse and/or disrespect for God or sacred things.]

Can the amateur community anticipate that there will be further enforcement action on language violations? "I think this is an indication that if we find there is indecent or obscene transmissions under circumstances similar to this where we can conclude with reasonable certainty that there are children in the audience then we will likely take action. Each violation will be decided on a case-by-case basis."

Mary Beth Richards told me that while she had been an FCC staff attorney for 9 years, she had been the FCC's Enforcement Division Chief only a few months. Richards said she was the FCC official who ordered the \$2,000 fine against Allen Burton for indecent amateur radio transmissions.

- A write-up appeared in a recent issue of *Communications Daily*, a highly respected Washington, DC telecommunications newsletter, concerning an HDTV system developed by amateur, *Leo Zucker, K2LZ* of White Plains, NY. It said the "FCC would violate law by picking a High Definition Television (HDTV) system that isn't fully compatible with existing NTSC [television] receivers." The All Channel Receiver Act requires TV sets to be able to receive all television signals. None of the six HDTV systems under consideration are compatible with current TV sets except K2LZ's who developed and tested his system on the ham bands.

Zucker has asked that his "orthogonal polarization system" be included in with the other HDTV proposals under consideration. So far, the FCC's Advanced TV Advisory Committee - headed up by ex-FCC Chairman Richard Wiley - has refused stating that his committee does not have the capability to conduct the test. K2LZ's system essentially transmits two video signals - one vertically and one horizontally polarized - each carrying alternating lines of the picture. An appropriately oriented antenna selects the version to be seen by the viewer. Zucker is considering a court appeal if his system does not get proper consideration.

The FCC is scheduled to select an HDTV standard next year and require all television stations to be on the air with HDTV within five or six years. Dual NTSC/HDTV simulcasting would take place for a ten year period (or until 2008) at which time all NTSC channels would be eliminated.

WOULD YOU LIKE TO BECOME A VOLUNTEER EXAMINER?

- A 17-year old Texas ham, **KB5AUH**, has been selected as the first female battalion commander in the 99 year history of the Texas Military Institute (TMI) of San Antonio. **Elizabeth Anne "Beth" Wiatrowski**, a Technician amateur radio operator was chosen for her academic performance, leadership and work she did the past year as assistant corps adjutant according to a story in the summer 1992 edition of *TMI Today*, a publication for alumni, parents and contributors to TMI. As commander, she will be responsible for organizing, training and directing the younger cadets. In addition to serving as the battalion commander during her senior year, KB5AUH is editor of the school's yearbook, sings in the choir and is captain of varsity tennis. (Tnx: WA5TUM)
- An article in the September 1992, *Cortlandt Forum*, (a medical journal for physicians) tells about how second year pathology resident, **Maria L. Evans, M.D., KT5Y**, of Columbia, Missouri, ran into one of her older ham friends in the lobby of a local hospital. He was there for treatment of two recent "syncopal episodes". Dr. Evans, an amateur radio operator for 16 years, was able to link the recent purchase and operation of a one kilowatt linear amplifier to the patient's attacks. *It seems his amplifier was RFing his cardiac pacemaker.* "His original 100-watt station hadn't provided enough RF energy to interfere with his pacemaker, but the recent addition of the linear amplifier changed all that. ...The patient decided 100 watts was plenty, sold his amplifier, and hasn't had a syncopal episode since." A photo in the journal shows 32 year old Dr. Evans perched on a tower complete with safety belt repairing her ham radio antenna. (Tnx: KB4PGC)
- Don Freeman, WS2Z, (and VE-6919) reports that he had **five members from one family** show up at one of his monthly W5YI-VEC amateur radio operator testing sessions in Reno, Nevada. Husband John McDonald, wife Elizabeth, 14 year old Daren, 12 year old Corey and Kevin, age 9, all passed their Technician ticket on the first attempt. And they got sequential call signs! They are now KD6HGK, KD6HGJ, KD6HGI, KD6HGH and KD6HGG. "All are thrilled with the excitement of ham radio and have begun to study for the code portion." (Tnx: WS2Z)
- **HF links were poor, so the OSCAR 13 amateur satellite** was used by WH6IC in Kailua on the Hawaiian island of Oahu to report that the Island of Kauai, about 75 miles northwest, was in the direct path of Hurricane Iniki. The satellite was also used to report of the storm's devastation and to handle emergency and health-and-welfare traffic. (Tnx: W3XO)

AUGUST AMATEUR LICENSING STATISTICS

<u>August</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>
New Amateurs:				
New Novices	1288	893	872	463
New Tech's	<u>158</u>	<u>158</u>	<u>3180</u>	<u>2495</u>
Total New:	1488	1089	4121	3003
<u>Upgrading:</u>				
Novices	1190	1209	1445	693
Technicians	391	503	*905	*642
Generals	272	334	520	398
Advanced	<u>182</u>	<u>232</u>	<u>406</u>	<u>275</u>
Total:	2035	2278	3276	2008
<u>Renewals:</u>				
Total Renew:	214	40	52	51
Novices	31	10	2	7
<u>Purged:</u>				
Total Dropped:	1835	1507	15	5
Novices	460	15	1	0
<u>Census:</u>				
Indiv. Oper.	463172	491670	529680	578111
Change/Year	+26467	+28498	+38018	+48431
<u>Individual Operators by Class:</u> (and % of total)				
<u>Extra</u>	<u>Advan.</u>	<u>General</u>	<u>Technic.</u>	<u>Novice</u>
<u>August 1989</u>				
49275	101311	116289	111708	84589
10.6%	21.9%	25.1%	24.1%	18.3%
<u>August 1990</u>				
52700	104222	119038	124778	90932
10.7%	21.2%	24.2%	25.4%	18.5%
<u>August 1991</u>				
56242	106990	121832	148229	96387
10.8%	20.9%	23.8%	25.7%	18.8%
<u>August 1992</u>				
60405	109404	124559	185209	98534
10.5%	18.9%	21.6%	32.0%	17.0%
Club/				
RACES &	<u>(1989)</u>	<u>(1990)</u>	<u>(1991)</u>	<u>(1992)</u>
Military:	2472	2444	2431	2471
Total Active:	465644	494114	532111	580542
% Increase	+6.1%	+6.1%	+7.7%	+9.1%

NUMBER OF AMATEURS BY CALL SIGN GROUP:

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- It is certainly no secret that the **Technician Class is the fastest growing** ham level. What is news is the rate in which the Technician Class is expanding! There are 25% more Techs than just a year ago - and the number of Techs has more than doubled in the last five years! The Amateur Service grew by 48,431 licensees during the past year; **36,980 (or 76.4%) of them were Technicians.** Here is what happened to the Technician Class over the past decade:

<u>August</u>	<u>Technicians</u>	<u>% Increase</u>
1982	75703	<u>over prior year</u>
1983	77298	+ 2.1%
1984	80680	+ 4.4%
1985	82867	+ 2.5%
1986	86025	+ 3.8%
1987	90675	+ 5.4%
1988	98944	+ 9.1%
1989	111708	+12.9%
1990	124778	+11.7%
1991	148229	+18.8%
1992	185209	+24.8%

It is interesting to note that the number of Technicians increased by an average of 3.8% a year between 1982 and 1987, 11.2% annually between 1988 and 1990, and jumped to the annual rate of 21.8% a year after the adoption of the Codeless Tech Class. It can be said that dropping the code from the Tech Class has had the impact of increasing the number of ham radio operators by nearly 10% a year.

If the current growth rate continues, there will be half a million Technician Class amateurs within five years ...and possibly more than all other ham classes combined!

- The Commission's *Notice of Proposed Rulemaking* (PR Docket 92-167) which looks toward providing *instant operator licenses to visiting foreign amateurs* will help future worldwide contest events. The *World RadioSport Team Competition* held during the 1990 Goodwill Games in Seattle, Washington, had

22 top contest teams from 15 countries participating in a ham radio "Cultural Exchange Event" on July 20, 1990. Amateurs from the Soviet Union, Bulgaria, Hungary and Czechoslovakia were not allowed to use their own call signs since no reciprocal licensing arrangements existed between their countries and the United States. A World RadioSport Federation has been established to sanction future global amateur radio contests.

- *Richard A. Burton, ex-WB6JAC* is headed back to court - and possibly to prison. Burton, 48, of Harbor City, California, has been trying for years to get his ham ticket back. It was revoked more than ten years ago. He landed in federal prison when he refused to go off the air. The 4 year sentence was reduced to 6 months and 5 years probation which was over on Dec. 17, 1989.

In 1990 Burton was again convicted of operating without a license, fined and placed on probation. His application for an amateur license was denied on Dec. 20, 1991, due to his long history of violations. On July 31, 1992, a judge agreed with the Private Radio Bureau that he should not be granted a ham ticket.

A Los Angeles Times feature story entitled "Ham Operator who Makes Waves on Airwaves Faces New FCC Charges" appeared on Sep. 15, 1992. It told how Burton vows to appeal his license ruling to the FCC review board and the agency's commissioners if necessary. If that fails, he will sue the government to get his license back.

It also reports that Burton was indicted again on Sep. 14th for making illegal amateur transmissions on May 5, May 20 and July 6, 1992. He pleaded innocent and was ordered to return for trial on Nov. 10th.

- *Ham band chaos in Germany?*

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We understand that the *Deutsche Bundespost* (German telecommunications regulating body) has proposed new regulations for radio amateurs in Germany. The new regulations totally deregulate amateur radio.

The new proposed rules will apparently abolish all specific mode subbands and licenses for special operations. The only guidelines appear to be that amateurs may not interfere with other services.

Weak signal, satellite, ATV, repeater, packet and other specific mode groups are very concerned that interference free operations may become a thing of the past if the proposal becomes law. The special interest groups believe their mode requires protection from interference. And many German amateurs want regulations to protect their right to experiment. Only the strongest modes may survive.

On the other hand many radio amateurs do not want the government to interfere in their hobby and see regulations as a reduction of their democratic rights.

The DARC (German Amateur Radio Society member of IARU) is suggesting some amendments to the Bundespost in order to prevent what they believe could be complete chaos. If DARC fails, the new regulations go into effect on Jan. 1, 1993.

In 1990, Canada deregulated their service to permit the use of any mode on any band - including voice on historically CW spectrum. And the anticipated turmoil never took place on the bands. As a general rule, Canadian hams are observing the traditional mode subbands and getting along with one another. Canadian amateurs are subject only to a maximum bandwidth - generally 6 kHz on the HF bands. (Except 1 kHz on 10.1-10.15 MHz; 20 kHz on ten meters.)

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• **Getting licensed to operate amateur radio in Mexico** certainly is not as easy as operating in Canada! The U.S. has a bilateral treaty arrangement that allows any FCC licensed amateur to instantly operate in Canada by simply appending his/her call sign with the appropriate VE location. (For example: W5YI/VE1.) Note that the VE1 appears after your call sign. There is no paperwork to prepare whatsoever. The Canadian Convention and has been in effect more than 40 years.

There is a reciprocal licensing arrangement between the U.S. and Mexico, but it is expensive and cumbersome! Supposedly there is a new easy-to-obtain reciprocal licensing arrangement coming, but the Mexican offices do not seem to know anything about it and the old system still applies.

To operate in Mexico, you must apply to a territorial telecommunications office of which there are fifteen. You also have to pay 211,000 pesos (about \$70) for a six month operating period. Your temporary license may be renewed, but it costs \$70 for each 6 month period. Once approved - and the approval can take anywhere from a couple of days to weeks ...or even months to obtain - you ID your station with the Mexican prefix and region in which you are operating before your call sign. (For example: XE2/W5YI.) These are the ham bands in Mexico:

Band: CW/MHz:	Phone/MHz:
80 M 3.5 - 4.0	3.6 - 4.0
40 7.0 - 7.3	7.05 - 7.3
20 14.0 - 14.35	14.1 - 14.35
15 21.0 - 21.45	21.25 - 21.45
10 28.0 - 29.7	28.3 - 29.7
2 144.0 - 148.0	146.0 - 148.0

The quickest licensing can be obtained from the Mexican Authority (Delagacion de Comunicaciones y Desarrollo Technologico) in Tijuana. Ask for Oscar Rivera Hernandez, Subdelago Regional.

• As expected, **the FCC has allocated spectrum for personal communications services**. PCS is the poor man's cellular telephone service (about half price). And low powered microcells allow phones to be used indoors where calls used to get lost. Computer notebook and laptop models can send data back via PCS to the office or transmit electronic mail.

The FCC allocated a total of 220 MHz (1850-1990, 2110-2150 and 2160-2200) of microwave (2 GHz) spectrum for emerging technologies such as PCS and other mobile services.

Current users, mostly electric utilities, pipelines and railroads, will be re-located to new spectrum over a period of years. The question is how many years. Unbelievably, Congress wants to transition to take eight years!

PCS testing is already going on in many cities around the country and some 150 experimental licenses have already been issued by the FCC. GTE plans to launch the nation's largest PCS test in Florida's Tampa Bay area that will involve 3,000 customers.

It is anticipated that 23 million people will be using PCS within 5 years. That is if the spectrum squabble can be solved.

• Well known ham writer, **Bill Welsh, W6DDB**, of Lancaster, CA, has petitioned the FCC to **make the 30 meter (10.1 - 10.15 MHz) ham band available to Novice and Technician Plus amateurs**.

He argues that the 10 meter band is almost useless at this low point in the sunspot cycle, the 15 meter band is very erratic and 40 meters is subject to interference from international shortwave broadcasting. The 40 Meter Novice band is also not available to amateurs in other parts of the world.

"...about half of our American amateurs (Novice and Technician

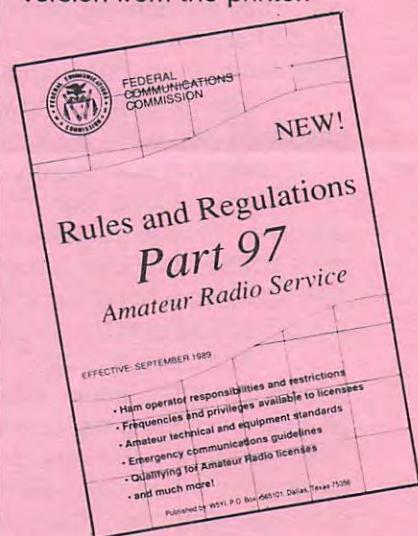
Plus) have very limited operating opportunities. They need the 30 meter band."

Welsh does not believe that voice privileges for Novices and the code-free Technician license benefits the Amateur Service since "...it reduces the possibility that they would acquire the increased code proficiency that is needed to upgrade..." (Petition dated 9/2/92)

• Don't forget the **35th Boy Scout Jamboree-On-The-Air** scheduled for October 17-18. This year they will be joined by the Girl Scouts. Frequencies are CW: 3590, 7030, 14070, 21140 and 28190. Phone: 3940, 7290, 14290, 21360 and 28990.

• **Japan now has an amateur radio reciprocal operating agreement with Korea**. There are now 1,203,226 amateur radio stations in Japan and 2,280,705 licensed ham operators. (Tnx: JARL)

• **Need a new Part 97 FCC Rule book?** We have just received a new updated (to September 1992), version from the printer.



Cost is \$2.95 postpaid. Toll-free VISA/MasterCard 1-800-669-9594 during regular business hours. (W5YI Group, Inc., P.O. Box 565101, Dallas, TX 75356)

TANDY OPENS FIRST INCREDIBLE UNIVERSE SUPERSTORE

Fort Worth based Tandy/Radio Shack with annual revenues of more than \$4.5 billion operates some 7,400 small to medium sized consumer electronics and major appliance stores including Radio Shack, McDuff, VideoConcepts, The Edge in Electronics and Computer City. Their latest retailing format is the Incredible Universe megastore which is being billed as the world's biggest electronic supermarket. I mean REALLY big! About 166,000 square feet under one roof; each staffed with 300 employees.

The first one opened in Wilsonville, Oregon, on September 17, prompting a huge traffic tie-up on the highway leading to the new facility. The huge four-acre warehouse-style structure some 17 miles south of Portland holds approximately \$9 million of consumer electronic and major appliances at very reasonable prices.

The Incredible Universe concept is to provide the consumer with affordable and fun shopping in a festive, tradeshow/convention-style atmosphere. There is nothing like it in the country! Its atmosphere is more of a carnival than a store - something that you'd expect to see on the strip in Las Vegas. All the ingredients were there ...less the gaming tables and slot machines! There is even a catwalk high above the action to keep track of the action! Even their Incredible Universe logo screams Vegas. The format, the brain-child of Tandy Chairman John V. Roach, is based on the annual million-square-foot Consumer Electronics Show that highlights the industry's latest consumer electronic products and things still in development.

Tandy simply took products from the nation's top 50 manufacturers, added customer service and the best prices possible. All sales personnel (called "cast members", customers are "guests") are salaried; none on commission. They spend 10% of their workday in the Incredible Universe training center keeping abreast of the latest technology. (Tandy even pays their tuition if they take outside training and get good grades.) Tandy computers keep track of "guests" by requiring that they be members, but it is free. You get issued a laminated ID card and key ring tag containing your very own bar code which is scanned at the register.

Customer services include an in-house repair shop, while-you-wait (automotive electronics) and in-home installation, delivery, training seminars ...and a financial service center with ATM's linked to local banks. If you don't have money, they'll get it for you ...somehow! They accept all major credit cards ...or they will issue you one of their own.

Key to the Incredible Universe concept is a completely new relationship with product manufacturers. They are actually part of the marketing, merchandise presentation, inventory control, personnel training and after-sale support process. A computer link direct to each provides daily information to facilitate sales forecasting, merchandise delivery and product support.

The grand opening week featured prizes, special buys, and even the opportunity to get your picture taken with a Mr. Spock look-a-like. They have a custom photo developing where you can "create-a-print." And you can make your own personal music video in the Karaoke studio.

The second store of this magnitude will open October 1st in Arlington, Texas, - too late for our deadline. But we did take a pre-opening tour of the new facility and will be there for the media bash the night before. We saw a stack of 12" black and white television sets as big as a house near the cash registers and were told they would all be sold at \$29 to opening day customers. Other Incredible Universe's are scheduled to follow in other demographic-friendly areas around the U.S.

The Incredible Universe carries everything from home computers (at particularly inexpensive prices) to home-theaters offering the latest in laser-disk technology. In fact, the Oregon store offered four (4) fully functioning big-screen home theaters with continuous free showings of Indiana Jones films. The store also sells 315 kinds of TV sets, 77 VCRs, 60 video camcorders, 340 video games, 45,000 music and movie titles (no rentals), 72 models of cameras, 181 refrigerators, 83 washer and dryers, 48 different computer systems ...and thousands of discounted computer software programs. For example, they were offering 386/25 personal computers w/color monitor fully loaded with software for \$857.00.

Among the customer amenities new to Tandy are a frequent-buyer program, a staffed children's play area (called Kidz View), lots of hands-on demonstrations, educational seminars, electronically retrievable product information, a photo store, restaurants ...even a recycling collection point for cardboxes and styrofoam. The ultimate bargain basement (demos, scratch'n'dent, one-of-a-kind, discontinued and

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special buys) is called the "Black Hole"; offbeat "weird stuff" is sold in "The Bazaar." You can try out video games in the arcade ...and buy them in the Game Shop next door. Kids will drive them nuts!

The Incredible Universe is split up into what appears to be 20 stores under one roof - each opening onto a large rotunda complete with a noisy sound stage and a gigantic Panasonic video wall suspended from the ceiling. The stage is for free shows and exhibitions. Strangely, the largest "store" is the music and video mart. The sights and sounds of the Universe are controlled by live disc jockeys. The signing is very psychedelic ...a lot hot colors and neon lights. There are hourly contests, prizes, seasonal events ...and "test driving" of all merchandise.

Conspicuous by its absence was any reference whatsoever to Tandy and Radio Shack. Monster signs (12 feet square) featured such names as Mitsubishi, Sony, RCA, Nintendo, Panasonic, Sharp, Casio, Hitachi, General Electric, Toshiba... The Tandy brands (Archer, Realistic, Memorex, GRiD, DuoFone among them) were all there, but they were buried, de-emphasized and treated as more or less off brands. The in-store Radio Shack store had a glitzy neon sign that merely said Accessory Shack.

Posted on the wall at the Incredible Universe is a sign that reads (perhaps with Mr. Spock in mind), "...good service isn't alien to our customers." The store is loaded with friendly sales personnel (along the lines of the so-called "Disneyland culture") outfitted with hand-held computers with which they can write up a purchase with a customer right on the sales floor. The sale is then transmitted immediately, and the item comes spinning down a spiral track to the loading dock in some 90 seconds.

By the second day, the traffic problems had abated (perhaps the result of extensive media coverage), but the parking lot and the store itself were crowded with bargain-hunting consumers. Local Tandy newspaper coverage of the grand opening celebration stated that "the secret of the Incredible Universe, besides incredible low prices, incredible selection, and incredible service, is incredible 'fun.'"

Tandy appears to have accomplished all four ...at least in the early stages of this venture. It remains to be seen whether the Incredible Universe "fill the store with fun seekers" concept will be viable over the long haul and what affect it will have on the smaller locally owned home-entertainment and computer stores.

FCC LOTTERY TO SELECT 220-222 MHZ LAND MOBILE LICENSEES

In 1988, the FCC reapportioned the 220-225 MHz band to provide unused spectrum for efficient new narrow band land mobile technologies. Since Amateur and Land Mobile operation would no longer be compatible, the Commission separated the shared Fixed, Land Mobile and Amateur Service band into two exclusive sections. Land Mobile got the 220-222 MHz segment and 222-225 MHz was allocated to Amateur use only.

On March 14, 1991, the Commission adopted new rules for the use of 220-222 MHz by Private Land Mobile Licensees which would become effective May 29. The two megahertz was divided into 400 five kHz wide frequencies, paired to create 200 narrow band local and nationwide channels. The FCC began accepting applications for the "local" channels on May 1, 1991. Over 58,000 were received by May 24, 1991, at which time the FCC ceased accepting any further applications. Amateurs were instructed to vacate 220-222 MHz within 90 days. Ham move out day was set for August 28, 1991.

Now the FCC is in the process of awarding the narrow band Land Mobile licenses and will rank the applications received the first day by lottery on Oct. 19, 1992. The lottery system will use numbered ping pong balls selected by a forced air device to determine a "seed number" which will be used to set a computer program to select a random series of application file numbers. The FCC's Gettysburg licensing facility will then process the applications for licenses in the order in which they were ranked by lottery.

MORSE CODE TEST FORMAT CHANGED IN UNITED KINGDOM

Britain's radio licensing authority, the Radiocommunications Agency, has announced changes to the format of the 12 wpm Amateur Morse test. It has been decided that the 12 wpm test should also be in a QSO format. This is considered to be better at preparing candidates for the sort of operating conditions they can expect to encounter 'on-the-air.' (Their 5 wpm code test is already in a QSO format.) The Agency believes the existing English text and numerals code test falls far short of preparing anyone to

actually understand a live message on the air. The new style test will be available effective January 1, 1993, but candidates who have studied under the old format will be able to take the old style Morse test until March 31, 1993, at which time the new test will become compulsory.

And on January 1, 1993, a new procedure for the identification of candidates will also be introduced. Instead of written proof of identity, applicants will be required to bring to the test center two recent passport-size photographs of themselves.

In the new Morse examination, examinees will receive a minimum of 120 letters and 7 figures in the form of a typical exchange (CW QSO) between radio amateurs. A manual Morse key will be used to send the test message, which will last approximately 2 minutes and 30 seconds. A minimum of six uncorrected errors will be permitted in the receiving test. In the sending test, the applicant will send a given text, on a hand key, comprising no less than 75 letters and 5 figures, also in the form of a typical QSO. This will last approximately 1 minute and 30 seconds. There must be no uncorrected errors in sending and no more than 4 corrected errors will be allowed. The test includes CW abbreviations, Q-codes and procedural characters. Both the 5 wpm and 12 wpm Morse tests are conducted by the *Radio Society of Great Britain* on behalf of the Radiocommunications Agency. (Tnx: G4FAI)

MEXICAN HAM MICROSAT TO BE LAUNCHED BY RUSSIA IN DECEMBER 1992

A new Microsat-class OSCAR satellite is planned for launch before the end of 1992. UNAMSAT-1, the first Mexican Amateur satellite is being constructed at UNAM, the Autonomous University of Mexico. As with the earlier Microsats it will have five modules, each about 20 cm on a side.

Four of the five modules are updated clones of existing Microsat hardware/software:

- Dual 70cm PSK transmitters (design by YT3MV)
- V40 CPU (designed by WA7GXD and others from TAPR, with modifications by I2KBD and ITAMSAT)
- Power system with BCR (by KE3Z/ARRL) and batteries
- 5-channel 2-meter FSK receiver (by W3IWI)
- Similar software to other Microsats (by NK6K and G0/K8KA)
- AART Bus architecture (by W3IWI and N5BRG)

The main differences from the earlier Microsat configuration are:

- The V40 CPU will have 4 MB of bulk RAM (vs. 8 MB).
- UNAMSAT-1 will be equipped with Gallium Arsenide solar panels (vs. the BSFR technology flown on the Microsats).

The innovative new addition in UNAMSAT-1 is the brand new on-board experiment in the 5th "TSFR" ("This Space For Rent") module. UNAMSAT-1 will act as a meteor sounder. It will contain a 40.097 MHz transmitter with 60 watts output during pulses from which can be varied from 1 to 10 msec in duration and with a pulse repetition rate of 1 to 10 seconds, as controlled by a 68HC05 CPU. The meteor echoes will be detected on a receiver at the same frequency designed to detect the returned echo and measure its doppler shift. The use of the meteor sounder is to obtain research data on the full-sky spatial and velocity distribution of meteors, with the focus on a search for high-velocity meteors originating outside our solar system.

The 41 MHz frequency for this transmitter is in the accordance with the ITU frequency allocations table for scientific research and both the 41 MHz and amateur frequencies have been licensed by Mexican authorities. The transmitter has a crystal frequency controlled exciter and a class "E" power amplifier.

The meteor receiver is an SSB "zero-IF" design (suggested by W3IWI) and the return echoes are digitized and stored in the normal V40 Microsat computer's RAM. After each pulse, the spectrum of the received signal will be determined using the onboard V40 as a DSP Fourier Transform spectrum analyzer. If a meteor echo is detected, the echo will be saved for later transmission as a special telemetry frame.

The 1-10 second repetition rate for the meteor transmitter will be adjusted depending on the state of charge of the batteries and other spacecraft power requirements, and also on the time domain requirements of the echoes.

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Detailed telemetry formats for meteor "radar" are still being defined. Data will be sent using standard amateur AX.25 packet specifications. When UNAMSAT-1 is not involved in meteor research, it can be turned into a standard PACSAT message store-and-forward satellite. Still to be finalized are the detailed 2-meter uplink and 70-cm downlink amateur frequencies.

XE1TU has been responsible for technical development of UNAMSAT-1 along with the team of hams and students at the University. The hams are XE1MGI, XE1XUS, XE1YLS in Mexico City. Scientific direction for the project has been provided by UNAM Professor of Astronomy Arcadio Poveda. AMSAT-NA provided technical details of its Microsat satellites to UNAM. During the development of UNAMSAT-1, technical assistance from AMSAT-NA has been provided by W3GEY, N4HY, NK6K, W3IWI and WD4FAB. ITAMSAT assistance was coordinated through I2KBD.

The UNAMSAT-1 launch will also be the beginning of a new era. Along with a larger meteorological satellite, it will be launched by the Russian Space Agency and by the Russian Academy of Sciences on a decommissioned SS-18 ICBM into an orbit about 1000 km high. At this time the launch is scheduled for the first week in December, 1992. Details for the launch are being worked out at the present and will be made available as soon as possible. (Tnx: W3IWI)

RESTRUCTURING THE AMATEUR RADIO SERVICE

William C. Wells, WA8HSU, of Logansport, Indiana, has submitted a lengthy (19 pages, single spaced typewritten) *Petition for Rule Making* to the FCC suggesting that the number of amateur radio operator license classes should be reduced from five to three and that all Commission mandated mode subbands be abolished. Wells asks that only the Novice, Technician and General Class licenses be retained. "Licensees currently holding the Advanced and Amateur Extra Class would be allowed to retain their license class, though with no additional privileges above General."

Wells wants test elements to be restructured to provide for:

- Element 1 Morse Code at 5 wpm
- Element 2 Rules and Regulations, Good Amateur Practice, Amateur Station Operating Procedure. (35 questions)
- Element 3 Safety (25 questions)
- Element 4 Technical questions from current Element 2 and 3. (40 questions)

License requirements for the three classes would be:

- Novice Elements 1, 2 and 3
- Technician Elements 2, 3 and 4
- General Elements 1, 2, 3 and 4

Operator Privileges:

● Novice	CW, FM, SSB: 160 and 10 meters	(200 watts)
	CW: 80, 40, 15 meters	(200 watts)
	CW, FM, SSB: 6, 2, 1 1/4 meters, 23 cm	(25 watts)
● Technician	All modes/emissions above 30 MHz	(1,500 watts)

Technician Class amateurs who have passed a code examination would have their license renewed at the General Class.

- General All amateur privileges at full power. (1,500 watts)

General Class operators may be Volunteer Examiners. Novice examinations may be administered by 2 VEs who need not be accredited. Technician and General Class examinations must be administered under the VEC System by three accredited VEs.

All band plans mandated by Commission Rules on Amateur Service frequencies below 30 MHz should be eliminated - except narrow bandwidth modes will be required in the 30 meter band. All new Amateur Service licenses should be issued for the life of the holder.

Wells - an Extra Class amateur - argues that his "...petition remedies the injustice done to the General Class licensees who had earned privileges taken away as the result of the American Radio Relay League, Inc. sponsored Incentive Licensing Program."

"The Amateur Radio Service of the United States has what is by far the world's most complex license structure. Almost everybody agrees that the present license structure is overly complex and this petition

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provides the maximum reasonable simplification of the license structure and licensing process."

In support of his proposal, Wells attached a 1990 letter (Exhibit A) from ARRL Executive Vice President Dave David Sumner, K1ZZ, acknowledging "There is substantial agreement in principle with the idea that the present structure is overly complex. How to translate that principle into reality no doubt will be a subject of considerable study and discussion."

"The Commission would be relieved of the burden of processing many license upgrades ...and eventually all license renewals. Since the Advanced Class and Amateur Extra Class licenses would still technically exist, this plan would be implemented without a software change. ...this plan would certainly reduce the administrative cost of the Amateur Radio Service and allow the Commission to shift its resources to other services which, in general, need more regulation..."

"The ARRL's claim that 'incentive licensing' would improve the quality of Amateur Radio Service licensees has proven to be almost entirely untrue. What incentive licensing has lead to is in many cases unseemly displays of elitism among the higher class licensees on the HF bands."

Wells maintains that the average age of amateurs has risen since incentive licensing was adopted "...amateur radio was in real danger of becoming a geriatric hobby." He said "...this trend was reversed on frequencies above 30 MHz by the adoption of a codeless entry license..."

"It is also the opinion of this petitioner that there are many potentially fine amateur operators who have been discouraged by what they correctly perceive to be a long climb to full participation in the Amateur Radio Service who have taken the easy way out and purchased amateur equipment which they operate between 27.405 MHz and 28 MHz where they present a hopeless enforcement problem for the Commission."

Wells also believes the public would be better served by a much more streamlined licensing structure because more people would be available to participate in public service communications.

"The ARRL should be disqualified from any comment on this petition due to their vested interest in the present system." Wells believes the League derives more income from publication sales than from member dues. "Prior to 'Incentive Licensing' the ARRL published a single License Manual at a price of \$2.50. Now they publish five license manuals which average about \$10.00 each," he said.

On eliminating the 13 and 20 words-per-minute code requirement, Wells feels "...maintaining a pool of expert telegraphers is no longer a matter of national security." He mentions that the military and maritime services are phasing out Morse code. "The 5 wpm Morse code test proposed here meets the letter and the spirit of current ITU regulations." Wells adds "This petition, if approved, would eliminate the controversy over element credit for the handicapped for the 13 and 20 wpm Morse code test..."

The petition is the second that Wells has submitted suggesting that the Amateur Service be restructured. Last year he proposed reducing the Amateur Service to two license classes: "Restricted" (or code-free) and "Amateur Radio License"

Ironically, your author (Fred Maia/W5YI) recently wrote an article for the November 1992 issue of CQ magazine which also pondered reducing the Amateur license classes to three. I did not know about the Wells petition when I wrote it. These classes would be code-free "Basic" (essentially combining the Novice and Technician), "Intermediate" (same as today's General but with a 5 wpm code requirement,) and "Expert" (combined Advanced and Extra Class with a 13 wpm telegraphy requirement.) Each class would require passing a 50 question written exam plus 5 wpm code for "Intermediate" and 13 wpm for "Expert."

AMATEUR RADIO LINKS SPACE SHUTTLE WITH NASA MISSION CONTROL

On September 18, 1992, the Shuttle crew used their small battery-powered ham radio to successfully link the astronauts with NASA mission control after computers handling official communication from earth failed briefly. The tiny two-meter transceiver installed on the shuttle was part of the Shuttle Amateur Radio experiment (SAREX) used by astronauts to talk with school children and licensed Amateur Radio operators on earth. A glitch in the White Sands (New Mexico) computers plunged the shuttle into a temporary communications blackout. Mission control in Houston asked *Lou McFadin, W5DID*, and *Doug Loughmiller, KO5I*, ham operators in the nearby SAREX control room to transmit a message to Astronaut *Jay Apt, N5QWL*. The message was relayed via Australian ham operator *Andy Joyce, VK4KIV* who was standing by for a scheduled contact with Queensland University of Technology in Brisbane. (Tnx: N1MZA)